Table S5 - List of primers

Primer name	Primer number	Sequence (5' to 3')
A. pROS/pMEL gRNA primers. gRNA sequence is underlined		
2mu inside fw	5974	TACTTTTGAGCAATGTTTGTGGA
2mu inside rv	5975	AACGAGCTACTAAAATATTGCGAA
Primer_gRNA_426_fw	5979	TATTGACGCCGGGCAAGAGC
Primer_stRNA_426_rv	5980	CGACCGAGTTGCTCTTG
P426 CRISPR rv	6005	GATCATTTATCTTTCACTGCGGAGAAG
RV_gnd2_gRNA	7231	GTTGATAACGGACTAGCCTTATTTTAACTTGCTATTTCTAGCT CTAAAACTATGATCTGGCAGCTTCGCGGATCATTTATCTTTCA CTGCGGAGAAGTTTCGAACGCCGAAACATGCGCA
SOL4_targetRNA FW	9503	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCACATTTTTCCACATATTAAGGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAG
TKL2_targetRNA FW	9508	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTCAAAAACTTAATGAGGAATGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAG
SHH3 gRNA fw	9446	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCATCCGGTTTTTATAACCCCAGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
CTP1_targetRNA FW	9489	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCACACCAAAATACCATAATAAGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
GPP2_targetRNA FW	9498	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCCAGAACCATATTTGAAAGGCGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAG
gRNA_IDP1_fwd	12285	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCGATCTTATCCCAAATGATACGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
PYC2_targetRNA fw	12514	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCGTGACTTAAATAAGAAAACTGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
SDH1b_targetRNA fw	12521	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTTTCTGATAAGTCAATGATCGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
SHH4_targetRNA fw	12529	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCCATATAAGAGGAATCATTTGGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
CIT3_targetRNA rv	12537	GTTGATAACGGACTAGCCTTATTTTAACTTGCTATTTCTAGCT CTAAAACCATTTGTAATGTTCGAATAAGATCATTTATCTTTCA CTGCGGAGAAGTTTCGAACGCCGAAACATGCGCA

NQM1_targetRNA RV	12569	GTTGATAACGGACTAGCCTTATTTTAACTTGCTATTTCTAGCT CTAAAACTCTAGAACAGTTATATGAATGATCATTTATCTTTCA CTGCGGAGAAGTTTCGAACGCCGAAACATGCGCA
AAC1_targetRNA FW	13820	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCGTATAAGAAGACACTGAAAAGTTTTAGAGCTAG AAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
AAC3_targetRNA FW	13826	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTTATAAAAAGACCTTGAAATGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
SAL1_targetRNA FW	13830	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTTGGCATTAACGAAATAAATGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
ODC1_targetRNA FW	13840	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCAAGAATAGTGTTGTGAAAGGGTTTTAGAGCTAG AAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
ODC2_targetRNA FW	13846	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCGTGCTGTTAAAAAATACAACGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
ODC2_targetRNA_fw	15580	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTTTTTCAGGGATCTGAAGTAGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
NDT2_targetRNA FW	13853	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCGAAAATTTAAAAATAAGGTTGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
MPC3_targetRNA FW	13859	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTTATTCACTACATAATAAAAGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
FRDS1_targetRNA FW	17280	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCTAAAGGTGTCCAAGAATTAAGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
IDP1_targetRNA FW	12285	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCGATCTTATCCCAAATGATACGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
IDP2_targetRNA FW	17287	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCATGAGCAAACAAGAATAATCGTTTTAGAGCTAG AAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
ALD3_targetRNA FW	17446	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCAACTTTAGCTTCTTCTTGATGTTTTAGAGCTAGAA ATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAAC
GPD1_targetRNA FW	7772	TGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGAT AAATGATCATTCTTCAATCATGTCCGGCGTTTTAGAGCTAGA AATAGCAAGTTAAAATAAG

B. Confirmation of guide RNA plasmids

FK105-MP1	2528	TCTTTCCTGCGTTATCCC
Fus Tag B fw	4672	CACCTTTCGAGAGGACGATG
LP crRNA rv	5941	GCTGGCCTTTTGCTCACATG

RV_gnd2_gRNA_check	7257	TATGATCTGGCAGCTTCGCG
TKL2_beta_dg rv	9708	ATTCCTCATTAAGTTTTTGA
SOL4_alpha_dg rv	9709	CTTAATATGTGGAAAAATGT
GPP2_beta_dg rv	9710	GCCTTTCAAATATGGTTCTG
TEFterm Fw	9719	TCAAGAACTTGTCATTTGTATAG
p426_AmdS_origin_removal_2	10466	GGAAATGTGCGCGGAAC
fw_CYC1t	11787	TCATGTAATTAGTTATGTCACGC
PYC2_pROS_dg rv	12520	AGTTTTCTTATTTAAGTCAC
SDH1b_pROS_dg rv	12527	GATCATTGACTTATCAGAAA
SHH3_pROS_dg rv	12528	TGGGGTTATAAAAACCGGAT
SHH4_pROS_dg rv	12535	CAAATGATTCCTCTTATATG
CIT3_pMEL_dg rv	12542	TTATTCGAACATTACAAATG
NQM1_pMEL_dg fw	12729	ATTCATATAACTGTTCTAGA
AAC1_pROS_dg rv	13825	TTTTCAGTGTCTTCTTATAC
AAC3_pROS_dg rv	13829	ATTTCAAGGTCTTTTTATAA
SAL1_pROS_dg rv	13835	ATTTATTTCGTTAATGCCAA
ODC1_pROS_dg rv	13845	CCTTTCACAACACTATTCTT
ODC2_pROS_dg rv	13851	GTTGTATTTTTTAACAGCAC
CTP1_pROS_dg rv	13852	TTATTATGGTATTTTGGTGT
NDT2_pROS_dg rv	13858	AACCTTATTTTTAAATTTTC
MPC3_pMEL_dg fw	13864	TTATTCACTACATAATAAAA
FRDS1_pROS_dg rv	17285	CTTAATTCTTGGACACCTTTAGATC
IDP1_pROS_dg rv	17286	CGTATCATTTGGGATAAGATCGATC
IDP2_pROS_dg rv	17290	CGATTATTCTTGTTTGCTCATGATC
GPD1_pROS_dg rv	17443	TATGGTCGACGTCCTTGCCC
ALD3_pROS_dg rv	17447	CATCAAGAAGAAGCTAAAGTTGATC

C. List of primers used for making repair fragments for gene deletion or integration

OAC1_KO_fw	6358	ATAGCAAGTCAGACACAAGCACATCTCATCGAATTATATCGT AAGCAAATGCCAGCTGAAGCTTCGTACG
OAC1_KO_rv	6359	CTGGCCAATGAATGAAACTTCAAACCTCGGAGTTTGTTATGG GAATTAATGCATAGGCCACTAGTGGATCTG
Gnd2_repair_FW_new	7299	AAGAATTCGTAGGTGCAGGTGAGCATATTGCCGGATAAGTG TAGTTACGCAACTACAATTGTTACTAAGGCCCAATCCGGTTG GAGAAGAACTATTGCCCTTGCTGCTACTTACGGTATT
Gnd2_repair_RV_new	7300	AATACCGTAAGTAGCAGCAAGGGCAATAGTTCTTCTCCAACC GGATTGGGCCTTAGTAACAATTGTAGTTGCGTAACTACACTT ATCCGGCAATATGCTCACCTGCACCTACGAATTCTT
SHH3 repair oligo fw	9448	CTCAATGCGACTGTGATAGCTGATAAGTGGAGCTCAGAAAT ATTCAGAAGCGTAAGAATAATGAAATGTAAGGAATGTACTT AGTGTTTTTTGCTACATAGCTTTTATGATACTCTTTAT
SHH3 repair oligo rv	9449	ATAAAGAGTATCATAAAAGCTATGTAGCAAAAAACACTAAG TACATTCCTTACATTTCATTATTCTTACGCTTCTGAATATTTCT GAGCTCCACTTATCAGCTATCACAGTCGCATTGAG
CTP1_repair oligo fw	9491	TTGATGTCACAATGAAAGAACTCCAAAGTAGAGCTTGAATTA TAAATTAGCATTTTACCGAATGTATTATTGTGTACAATATATC ATCTAATGTTTTCTACTCGTTATAAGTCTATTTAC

CTP1_repair oligo rv	9492	GTAAATAGACTTATAACGAGTAGAAAACATTAGATGATATAT TGTACACAATAATACATTCGGTAAAATGCTAATTTATAATTCA AGCTCTACTTTGGAGTTCTTTCATTGTGACATCAA
GPP2_repair oligo fw	9499	GTTTGCCAAAGGTTTCTTTTCTGCTCAATTTGGTCTAACTCTTT TCATATTAATAGCGCCATTAAATAAATACGTAGATAGATTTTT TTTTTTAAAACATATAGTGTGCTATTATTTCTG
GPP2_repair oligo rv	9500	CAGAAATAATAGCACACTATATGTTTTAAAAAAAAAAATCTA TCTACGTATTTATTTAATGGCGCTATTAATATGAAAAGAGTTA GACCAAATTGAGCAGAAAAGAAACCTTTGGCAAAC
SOL4_repair oligo fw	9504	CAGCAGTTTTCCAAACAAAGAATGCCATTCATCAAATAATCC ACAACCACCTCAAGAAAATTACACTCGTCTTTATACGAAACT GGCTCCGTTAATCACGACAGACAACCTTAATTACAT
SOL4_repair oligo rv	9505	ATGTAATTAAGGTTGTCTGTCGTGATTAACGGAGCCAGTTTC GTATAAAGACGAGTGTAATTTTCTTGAGGTGGTTGTGGATTA TTTGATGAATGGCATTCTTTGTTTGGAAAACTGCTG
TKL2_repair oligo fw	9509	TTGTTGGGAGGAGTCCTGAATAAGGAGTGTCGAATATAGGG AGCTTCATTCGTTGTCAAGGAAGTAAACAGTTCTTTGCTATTT CACACTTCCTGGTTGATGGTCACTTGCTGCCTGAAA
TKL2_repair oligo rv	9510	TTTCAGGCAGCAAGTGACCATCAACCAGGAAGTGTGAAATA GCAAAGAACTGTTTACTTCCTTGACAACGAATGAAGCTCCCT ATATTCGACACTCCTTATTCAGGACTCCTCCCAACAA
IDP1_repair_fwd	12295	TTATGAAATCTTCCTTCAAGCAATTGTGAGACAACAGACGCA CAAGGAAGATCGCCCAGCTCGAATTTACGTAGCCCAATCTAC CACTTTTTTTTTCATTTTTTAAAGTGTTATACTTAG
IDP1_repair_rev	12296	CTAAGTATAACACTTTAAAAAATGAAAAAAAAAGTGGTAGA TTGGGCTACGTAAATTCGAGCTGGGCGATCTTCCTTGTGCGT CTGTTGTCTCACAATTGCTTGAAGGAAGATTTCATAA
PYC2-repair oligo fw	12516	TGCAAAATAAAGGACAGTTACTAGGAGAGAAAATAAGGGA CATAGAGAACAAAATAAAATTTTTTACTCGTTAATTATATTTT ATGACATCTGAAAATACTAGCTGTACTATATATGGCG
PYC2-repair oligo rv	12517	CGCCATATATAGTACAGCTAGTATTTTCAGATGTCATAAAAT ATAATTAACGAGTAAAAAATTTTACTTTGTTCTCTATGTCTCT TATTTTCTCTCCTAGTAACTGTCCTTTATTTTGCA
SDH1b -repair oligo fw	12523	GAAAAGAAGGAGCCTAAATACGTATATCTATATACATGTATA CACGTGAGCTAATAAATTTTCTTATTTATTTATTTATTTATTTT GGAGGGCAAACTTATTTATTGATCTGGCAAAAAT
SDH1b -repair oligo rv	12524	ATTTTTGCCAGATCAATAAATAAGTTTGCCCTCCAAAATAAAT AAATAAATAAATAAGAAAATTTATTAGCTCACGTGTATACAT GTATATAGATATACGTATTTAGGCTCCTTCTTTTC
SHH4-repair oligo fw	12531	AGTTCTAATGAATCAGCAAAGATTCTCAAAAAGGTTGCCCCA ATTCTTAGGAAAGTAGGATCAATATGGTTTGGTTAGTGGTGA CTACCTTTTTTATTCTCGTTATATATGTGTATTAGA
SHH4-repair oligo rv	12532	TCTAATACACATATATAACGAGAATAAAAAAGGTAGTCACCA CTAACCAAACCATATTGATCCTACTTTCCTAAGAATTGGGGC AACCTTTTTGAGAATCTTTGCTGATTCATTAGAACT
CIT3-repair oligo fw	12538	AAAAAGATCGTATTTGATCAAGAATTTATACATAGACGCCGC TAAATAATTGAATACAAACGCAGTTCCAATTTACAAGAATGC TTCGTTTGCTATTACAATATTGAAATATAAATAAAA

CIT3-repair oligo rv	12539	TTTTATTTATATTTCAATATTGTAATAGCAAACGAAGCATTCT TGTAAATTGGAACTGCGTTTGTATTCAATTATTTAGCGGCGT CTATGTATAAATTCTTGATCAAATACGATCTTTTT
NQM1_repair oligo fw	12570	TTCTTGCTAGCGTAAGTCATAAAAAATAGGAAATAATCACAT ATATACAAGAAATTAAATTCATTAAGAGTAGAGGTACCTACT TATATATATAAATATATATATACCACTTTCCTTTTC
NQM1_repair oligo rv	12571	GAAAAGGAAAGTGGTATATATATATTTATATATATAAGTAGG TACCTCTACTCTTAATGAATTTAATTTCTTGTATATATGTGATT ATTTCCTATTTTTTATGACTTACGCTAGCAAGAA
AAC1_repair oligo fw	13821	TTCCTTTTTACAGCAGTAATGTCTCACACAGAAACATAGACTC AGCAGTCACACTTCGGTAAAAAAAAGAAAACAACAAACGAA TAAAATCTAAAAATTCTACATATTCTTGCTATTTAT
AAC1_repair oligo rv	13822	ATAAATAGCAAGAATATGTAGAATTTTTAGATTTTATTCGTTT GTTGTTTTCTTTTTTTTACCGAAGTGTGACTGCTGAGTCTATG TTTCTGTGTGAGACATTACTGCTGTAAAAAGGAA
AAC3_repair oligo fw	13827	GTATAATTAACTCAATTGAAGACGGTTTACCTGAAGTGATAT ACTGTGCCTTGAGAAACATCAGTTGGATGAAGAAAAAAGTC ATTTTCTCGACTTCTCTTCACCTTTCGATCGATTTGA
AAC3_repair oligo rv	13828	TCAAATCGATCGAAAGGTGAAGAGAAGTCGAGAAAATGACT TTTTTCTTCATCCAACTGATGTTTCTCAAGGCACAGTATATCA CTTCAGGTAAACCGTCTTCAATTGAGTTAATTATAC
SAL1_repair oligo fw	13831	GGGAAATATTGAATATTTGAAGGGGCAAATAACGTTTAATTC AATCGAATGACGGTCTAATGATAATAACATATGCATATGTAT CAACTAGTGAATTCTATTTAATTATAAACCGCTGCT
SAL1_repair oligo rv	13832	AGCAGCGGTTTATAATTAAATAGAATTCACTAGTTGATACAT ATGCATATGTTATTATCATTAGACCGTCATTCGATTGAATTAA ACGTTATTTGCCCCTTCAAATATTCAATATTTCCC
ODC1_repair oligo fw	13841	TTTATCTCATTTATTCTCAAGATAGAACTGTAACGAGGGTGA AAGAAAAAGAACTGTAAGTCCTGACGCTCTTTATTTCATTTT GTTGTAGCCCGCCCATACATGTATACGTATATATAT
ODC1_repair oligo rv	13842	ATATATATACGTATACATGTATGGGCGGGCTACAACAAAATG AAATAAAGAGCGTCAGGACTTACAGTTCTTTTTCTTTCACCCT CGTTACAGTTCTATCTTGAGAATAAATGAGATAAA
ODC2_repair oligo fw	13847	CACTTTTTTACTGGGTTAGATTCTATATAGTCAAGTAATTCGA GGTAGCATCAAAGTAATTATTTATTGTATATAGAATACCTCTT TCCTCTTCAATCTTAACTACGTTATTTCTACGTC
ODC2_repair oligo rv	13848	GACGTAGAAATAACGTAGTTAAGATTGAAGAGGAAAGAGG TATTCTATATACAATAAATAATTACTTTGATGCTACCTCGAAT TACTTGACTATATAGAATCTAACCCAGTAAAAAAGTG
NDT2_repair oligo fw	13854	GTTGTTCTCAACTTATTTTCATTGTTTGATGAAAAGCGGAATA TACATCACGGCTATATAAGTGAAACAGAAAAATGTACATGAC ACAAGCTGAGGGTCGTAAAAAGCATCTTTCGCAAT
NDT2_repair oligo rv	13855	ATTGCGAAAGATGCTTTTTACGACCCTCAGCTTGTGTCATGT ACATTTTTCTGTTTCACTTATATAGCCGTGATGTATATTCCGCT TTTCATCAAACAATGAAAATAAGTTGAGAACAAC
MPC3_repair oligo fw	13860	GTCTTTAAGACTATACGCATAAGCATTCAAGACACATAGAAA CACAAACCTATATTTTTATTACGTAAACGATAATATGTTCCTG AACTCGCATTTTTTTAATGATTTTTTATGACCTCT

MPC3_repair oligo rv	13861	AGAGGTCATAAAAAATCATTAAAAAAATGCGAGTTCAGGAA CATATTATCGTTTACGTAATAAAAATATAGGTTTGTGTTTCTA TGTGTCTTGAATGCTTATGCGTATAGTCTTAAAGAC
FRDS1_repair oligo fw	17281	CATAGCACCCCATTTTTTTTTCTTATCTTCACTTCAACAACCCC TCATCCGTAATTGTAAGGTGGTGCTAGAATCAATGTCAAGGC TCAAGTCATTGGCAAGAACGACGAAAGGCTACTA
FRDS1_repair oligo rv	17282	TAGTAGCCTTTCGTCGTTCTTGCCAATGACTTGAGCCTTGACA TTGATTCTAGCACCACCTTACAATTACGGATGAGGGGTTGTT GAAGTGAAGATAAGAAAAAAAAATGGGGTGCTATG
IDP2_repair oligo fw	17288	GCTGCTCAGGCACGAGAATAGGAGGTAAGAAGGTAACGTA CGTATATATATAAAATCGTAACTAAAGATTTGGCGCTCATTCT CGGTAAGTCTGAAAGATCCGCTTATGTTACTACCGAG
IDP2_repair oligo rv	17289	CTCGGTAGTAACATAAGCGGATCTTTCAGACTTACCGAGAAT GAGCGCCAAATCTTTAGTTACGATTTTATATATATACGTACGT TACCTTCTTACCTCCTATTCTCGTGCCTGAGCAGC
GPD1_repair oligo fw	17444	GAAACAATTGTATATTGTACACCCCCCCCCTCCACAAACACA AATATTGATAATATAAAGATTTATTGGAGAAAGATAACATAT CATACTTTCCCCCACTTTTTTCGAGGCTCTTCTATA
GPD1_repair oligo rv	17445	TATAGAAGAGCCTCGAAAAAAGTGGGGGAAAGTATGATATG TTATCTTTCTCCAATAAATCTTTATATTATCAATATTTGTGTTT GTGGAGGGGGGGGGTGTACAATATACAATTGTTTC
ALD3_repair oligo fw	17450	TGATTTTATTTGTAAATAGTTATCAACGCCGGTGTCGCCTGAT TCTCTACCAATACCACTTTTTCTTTTGGCTAATTTTCTAAATGT GTATAATCTATATCTCTATGATACAAGTCCAAG
ALD3_repair oligo rv	17451	CTTGGACTTGTATCATAGAGATATAGATTATACACATTTAGA AAATTAGCCAAAAGAAAAAGTGGTATTGGTAGAGAATCAGG CGACACCGGCGTTGATAACTATTTACAAATAAAATCA
GPP2_pURA3_fw	17752	AACCAGCTAGTGTGTACCAGATCAGTGGAAAAACATAAAAC AATAAAAACAATATTCGGATGAGTATTTTCAATAAATTTGTA GAGGACT
GPP2_tURA3_rv	17753	CGAATATAGAATAGGACTGTATCTGAGAATTATTACTTAAAT ATGTTCGATTTTAGAGGATTGCTTTTGTTCCACTACTTTTTG
X2_pMPC3_fw	18025	TCACAGAGGGATCCCGTTACCCATCTATGCTGAAGATTTATC ATACTATTCCTCCGCTCGTTATTTTGGTCGCCCCTTTAAC
X2_tMPC3_rv	18026	GTCATAACTCAATTTGCCTATTTCTTACGGCTTCTCATAAAAC GTCCCACACTATTCAGGATCCTGCTGCTAAAAAGGTC
D. Verification of removal or insertion of a gene		
AAC3 - CTRL FW	243	GCTTCCAATGGCCTCCTCACCG
AAC3 - CTRL RV	244	GGGGGGGAATGCACTTAACAAAGAACC
URA3_dg rev	1065	CCCGGTAAAGCATTTCGAAG
TKL2 dis500 fw	1360	TCTTAATGGTGGCTCGCTGTC
TKL2 dis500 rv	1361	TCAATGCAGCCCATACACTC
URA3_dg rev Inside	1741	GAGCCCTTGCATGACAATTC
GPD1_dg fw	2016	CCCACCCACACCACCAATAC
GPD1_dg rev	2017	CGGACGCCAGATGCTAGAAG
URA3_dg fw Inside	2891	CATGGAGGGCACAGTTAAGC

URA3_dg rev Insert	4905	TCTTGGAAACGCTGCCCTAC
OAC1_fw	6360	AGTCAGGGTCTGCCGATATG
OAC1_rv	6361	CTTTCCGGTCCATGTTCGTC
FW_gnd2KO_check	7258	TCTGACAGGTGGCAGTTTCC
RV_gnd2KO_check	7259	ATCCGAAAGGCGGCAATAGG
URA3_dg fw	7372	GGGCAACGGTTCATCATCTCATGG
FW_x-2_outside	7376	GGTCTAGGCCTGCATAATCG
RV_X-2_outside	7377	TGCGGCATCATGTCTACTTG
SHH3 dg fw	9450	GTGACATGGCTCTTGCGTTC
SHH3 dg rv	9451	ACTTGCATCGCATCCAGTTC
CTP1_dg fw	9493	TGTCTGGGAACTCGGCTAAC
CTP1_dg rv	9494	TGGTTGGCTGTTTTTGTGGC
GPP2_dg fw	9501	AGTGTTCCGTCCGCGTCATC
GPP2_dg rv	9502	GGCGTTACACAGCCCAATCC
SOL4_dg fw	9506	GGGTGGACGTTTAAGCATAC
SOL4_dg rv	9507	GTATCACCGGGTGAGCTATG
IDP1_dg_fwd	12305	GAGAACCCGAGGACGATGTC
IDP1_dg_rev	12306	AACAGCCCCCTAAAACACGG
IDP2_dg_fwd	12307	GTGGGTTCTCACCGGGTTAG
IDP2_dg_rev	12308	ACTACCAGCTGGGATAGGGG
PYC2_dg fw	12518	CTGTGATTGGCAGAGAGGGG
PYC2_dg rv	12519	AATTCGTTTGCGCCAAGTCC
SDH1b _dg fw	12525	CTCCGGACTTATGTGGCTCC
SDH1b _dg rv	12526	ACTGAGGGAGAGGGTAAGG
SHH4_dg fw	12533	GCGCACTAGTTTGATGCCTG
SHH4_dg rv	12534	TGGCCTGCAAACTAAAACGC
CIT3_dg fw	12540	AGTGACACACCATGGTAGCG
CIT3_dg rv	12541	GACATCGGGGAAGTGGCTAC
NQM1_dg fw	12572	CCTTGATCTGGCTCTGGCTC
NQM1_dg rv	12573	CGCAAGGTAATTACGCCACG
AAC1_dg fw	13823	TTATCGGCGACTCAGCGTAC
AAC1_dg rv	13824	TTTGAGAGAGCACCGTCCAC
SAL1_dg fw	13833	TACCGGCCTTTCCAATACCC
SAL1_dg rv	13834	ATCTGGTTTGCGTTCGCATC
ODC1_dg fw	13843	AATGCGGCGACCAGAGATAG
ODC1_dg rv	13844	CCCCAGTCAAGTTGCATTGC
ODC2_dg fw	13849	GTGCAGTCGCGATCACTTTC
ODC2_dg rv	13850	TCCCTGCGATCCGTTATGTG
NDT2_dg fw	13856	TTCTCGACATACTCGCGCTG
NDT2_dg rv	13857	CAGCTATTTCGGCAGTGCAC
MPC3_dg fw	13862	TGGTTTGGTCACGCAAAACC
MPC3_dg rv	13863	AAGTAGAAGAAGGCCGCGAC
FRDS1_dg fw	17283	TCGCAGGGTTTCTTCACAGG
FRDS1_dg rv	17284	ACAATCTTCAGGCCCGTCTG
ALD3_dg fw	17448	GCTTAGCTTACATGGCTGCG
ALD3_dg rv	17449	TTTAGGGAGGAGACAGGGAG

E. Construction and verification of IMX1331

***Cas9* DNA fragment**		
CAN1DelcassFW	2873	TCAGACTTCTTAACTCCTGTAAAAACAAAAAAAAAAAAAGGC ATAGCAATAAGCTGGAGCTCATAGCTTC
A-CYC1t-rv	4653	GTGCCTATTGATGATCTGGCGGAATGTCTGCCGTGCCATAGC CATGCCTTCACATATAGTCCGCAAATTAAAGCCTTCGAG
natNT2 DNA fragment		
tagA-pUG	3093	ACTATATGTGAAGGCATGGCTATGGCACGGCAGACATTCCG CCAGATCATCAATAGGCACCTTCGTACGCTGCAGGTCGAC
CAN1 KO rv	5542	CTATGCTACAACATTCCAAAATTTGTCCCAAAAAGTCTTTGGT TCATGATCTTCCCATACGCATAGGCCACTAGTGGATCTG
Diagnostic primers to check integration		
CAN1 cut rv	5829	AGAAGAGTGGTTGCGAACAGAG
m-PCR-HR4-RV	2673	TGAAGTGGTACGGCGATGC
m-PCR-HR2-FW	2668	ACGCGTGTACGCATGTAAC
Reverse primer pUGamds backbone	8442	CGGGTGACCCGGCGGGGAC
Nat Ctrl Fw	2620	GCCGAGCAAATGCCTGCAAATC
Can1RV	2615	GAAATGGCGTGGGAATGTGA